

What is claimed is:

1. A method for data storage comprising:  
grouping a set of data according to its most common access requirements into a  
plurality of groups; and  
storing the groups in a database as single binary objects, wherein each of the  
5 groups is stored as one single binary object.
2. The method of Claim 1 wherein the database is a relational database.
3. The method of Claim 2 wherein the set of data need not to be frequently accessed  
10 in arbitrary ways.
4. The method of Claim 3 wherein the grouping comprises encoding the data into the  
binary objects by calling a component software.
- 15 5. The method of Claim 3 wherein the component software is a COM object.
6. The method of Claim 4 further comprising;  
retrieving the binary objects from the relational database;  
decoding the binary objects into the set of data; wherein the binary objects are  
20 encoded in a data structure format that is compatible on a binary level with the decoding.

7. The method of Claim 6 wherein the decoding comprises calling a component software for decoding.
  8. The method of Claim 7 wherein the component software is a COM object.
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7. The method of Claim 1 wherein the set of data is probe intensity data.
  8. The method of Claim 7 wherein the probe intensity data are from gene expression experiments and data from each probe set are grouped into one single binary
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9. The method of Claim 7 wherein the probe intensity data are grouped into a single binary object.
  10. The method of Claim 9 wherein at least 100 probe intensity values are grouped
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11. The method of Claim 10 wherein at least 1000 probe intensity values are grouped into a single binary object.
  12. The method of Claim 1 wherein the set of data are probe design data comprising probe information.
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13. A method for managing probe array data, wherein the data comprising a plurality of intensity values for a plurality of probes, comprising:  
grouping the intensity values into a plurality of groups according to most common  
5 access requirement; and  
storing the groups in a database as single binary objects, wherein each of the groups is stored as one single binary object.

14. The method of Claim 13 wherein the database is a relational database.

15. The method of Claim 14 wherein the grouping comprises encoding the data into the binary objects.

16. The method of Claim 15 wherein each of the groups comprises at least 100  
15 intensity values.

17. The method of Claim 16 wherein each of the groups comprises at least 1000 intensity values.

20 18. The method of Claim 17 wherein each of the groups comprises intensity values for a set of probes, wherein the set of probes is for detecting one transcript.

19. The method of Claim 18 wherein the encoding comprises calling a component software.

20. The method of Claim 18 wherein the component software is a COM object.

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21. The method of Claim 19 further comprising:  
retrieving the binary objects from the relational database;  
decoding the binary objects into the set of data; wherein the binary objects are  
encoded in a data structure format that is compatible on a binary level with the  
decoding.

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22. A method for managing probe design information comprising:  
grouping the probe design information into a plurality of groups according to the  
most common access requirement; and  
storing the groups in a database as single binary objects, wherein each of the  
groups is stored as one single binary object.

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23. The method of Claim 22 wherein the database is a relational database.

20 24. The method of Claim 23 wherein the grouping comprises encoding the data into  
the binary objects.

25. The method of Claim 24 wherein each of the groups comprises data for probes in a tiling segment.

26. The method of Claim 25 wherein the segment is at least 25 bases.

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27. The method of Claim 26 wherein the segment is at least 250 bases.

28. The method of Claim 28 wherein the encoding comprises calling a component software.

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29. The method of Claim 29 wherein the component software is a COM object.

30. A system for data management comprising:

a processor; and

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a memory coupled with the least one processor, the memory storing a plurality of machine instructions that cause the processor to perform logical steps, wherein the logical steps include:

grouping a set of data according to its most common access requirements into a

plurality of groups; and

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storing the groups in a database as single binary objects, wherein each of the groups is stored as one single binary object.

31. The system of Claim 30 wherein the database is a relational database.
32. The system of Claim 31 wherein the set of data need not to be frequently accessed in arbitrary ways.
- 5 33. The system of Claim 32 wherein the grouping comprises encoding the data into the binary objects by calling a component software.
34. The system of Claim 33 wherein the component software is a COM object.
- 10 35. The system of Claim 34 further comprising;  
retrieving the binary objects from the relational database;  
decoding the binary objects into the set of data; wherein the binary objects are  
encoded in a data structure format that is compatible on a binary level with the  
15 decoding.
36. The system of Claim 35 wherein the decoding comprises calling a component software for decoding.
- 20 37. The system of Claim 37 wherein the component software is a COM object.
38. The system of Claim 30 wherein the set of data is probe intensity data.

39. The system of Claim 38 wherein the probe intensity data are from gene expression experiments and data from each probe set are grouped into one single binary object.

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40. The system of Claim 39 wherein the probe intensity data are grouped into a single binary object.

41. The system of Claim 40 wherein at least 100 probe intensity values are grouped into a single binary object.

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42. The system of Claim 41 wherein at least 1000 probe intensity values are grouped into a single binary object.

43. The system of Claim 30 wherein the set of data are probe design data comprising probe information.

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44. A system for managing probe array data, wherein the data comprising a plurality of intensity values for a plurality of probes, comprising:

a processor; and

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a memory coupled with the processor, the memory storing a plurality of machine instructions that cause the processor to perform logical steps, wherein the logical steps include:

grouping the intensity values into a plurality of groups according to the most

common access requirement; and

storing the groups in a database as single binary objects, wherein each of the groups is stored as one single binary object.

45. The system of Claim 44 wherein the database is a relational database.

46. The system of Claim 45 wherein the grouping comprises encoding the data into the binary objects.

47. The system of Claim 46 wherein each of the groups comprises at least 100 intensity values.

48. The system of Claim 47 wherein each of the groups comprises at least 1000 intensity values.

49. The system of Claim 48 wherein each of the groups comprises intensity values for a set of probes, wherein the set of probes is for detecting one transcript.



50. The system of Claim 49 wherein the encoding comprises calling a component software.

51. The system of Claim 50 wherein the component software is a COM object.

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52. The system of Claim 51 further comprising;

retrieving the binary objects from the relational database;

decoding the binary objects into the set of data; wherein the binary objects are encoded in a data structure format that is compatible on a binary level with the decoding.

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53. A system for managing probe array design data comprising:

a processor; and

a memory coupled with the processor, the memory storing a plurality machine

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instructions that cause the processor to perform logical steps, wherein the logical steps include:

grouping probe design information into a plurality of groups according to the most common access requirement; and

storing the groups in a database as single binary objects, wherein each of the

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groups is stored as one single binary object.

54. The system of Claim 53 wherein the database is a relational database.

55. The system of Claim 54 wherein the grouping comprises encoding the data into the binary objects.

5 56. The system of Claim 55 wherein each of the groups comprises data for probes in a tiling segment.

57. The system of Claim 56 wherein the segment is at least 25 bases.

10 58. The system of Claim 57 wherein the segment is at least 250 bases.

59. The system of Claim 58 wherein the encoding comprises calling a component software.

15 60. The system of Claim 59 wherein the component software is a COM object.

61. The system of Claim 60 further comprising;  
retrieving the binary objects from the relational database;  
decoding the binary objects into the set of data; wherein the binary objects are  
20 encoded in a data structure format that is compatible on a binary level with the  
decoding.

62. The system of Claim 61 wherein the decoding comprises calling a component software for decoding.

5 63. The system of Claim 62 wherein the component software is a COM object.

64. A computer readable medium having stored thereon a data structure comprising:  
a first table comprising a first field containing a first and a second field containing  
or referring to a binary object, wherein the binary object contains probe intensity  
values; and  
a second table comprising a first field containing the first identifier, wherein the  
first table is related to second table by the first identifier.

65. The computer readable medium of Claim 64 wherein the second table stores tiling  
design.

66. A computer readable medium comprising computer-executable instructions for  
performing the methods comprising:

grouping a set of data according to its most common access requirements

into a plurality of groups; and

storing the groups in a database as single binary objects, wherein each of  
the groups is stored as one single binary object.

67. The computer readable medium of Claim 66 wherein the database is a relational database.

5 68. The computer readable medium of Claim 67 wherein the set of data need not to be frequently accessed in arbitrary ways.

69. The computer readable medium of Claim 68 wherein the grouping comprises encoding the data into the binary objects by calling a component software.

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70. The computer readable medium of Claim 69 wherein the component software is a COM object.

71. The computer readable medium of Claim 68 further comprising;  
15 retrieving the binary objects from the relational database;  
decoding the binary objects into the set of data; wherein the binary objects are encoded in a data structure format that is compatible on a binary level with the decoding.

20 72. The computer readable medium of Claim 71 wherein the decoding comprises calling a component software for decoding.

73. The computer readable medium of Claim 72 wherein the component software is a COM object.

72. The computer readable medium of Claim 66 wherein the set of data is probe  
5 intensity data.

73. The computer readable medium of Claim 72 wherein the probe intensity data are  
from gene expression experiments and data from each probe set are grouped into  
one single binary object.

74. The computer readable medium of Claim 73 wherein the probe intensity data are  
grouped into a single binary object.

75. The computer readable medium of Claim 74 wherein at least 100 probe intensity  
15 values are grouped into a single binary object, wherein said 100 probe intensity  
values.

76. The computer readable medium of Claim 75 wherein at least 1000 probe intensity  
values are grouped into a single binary object.

77. The computer readable medium of Claim 66 wherein the set of data are probe  
20 design data comprising probe information.

78. A computer readable medium for managing data, wherein the data comprising a plurality of intensity values for a plurality of probes, comprising computer-executable instructions for performing the method comprising:  
5 grouping the intensity values into a plurality of groups according to most common access requirement; and  
storing the groups in a database as single binary objects, wherein each of the groups is stored as one single binary object.

10 79. The computer readable medium of Claim 78 wherein the database is a relational database.

80. The computer readable medium of Claim 79 wherein the grouping comprises encoding the data into the binary objects.

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81. The computer readable medium of Claim 80 wherein each of the groups comprises at least 100 intensity values.

82. The computer readable medium of Claim 81 wherein each of the groups  
20 comprises at least 1000 intensity values.

83. The computer readable medium of Claim 82 wherein each of the groups comprises intensity values for a set of probes, wherein the set of probes is for detecting one transcript.
- 5 84. The computer readable medium of Claim 83 wherein the encoding comprises calling a component software.
85. The computer readable medium of Claim 84 wherein the component software is a COM object.
- 10 86. The computer readable medium of Claim 19 wherein the method further comprises;
- retrieving the binary objects from the relational database;
- decoding the binary objects into the set of data; wherein the binary objects are
- 15 encoded in a data structure format that is compatible on a binary level with the decoding.
87. A computer readable medium comprising computer-executable instructions for performing the methods comprising:
- 20 grouping the probe design information into a plurality of groups according to the most common access requirement; and

storing the groups in a database as single binary objects, wherein each of the groups is stored as one single binary object.

88. The computer readable medium of Claim 88 wherein the database is a relational database.

89. The computer readable medium of Claim 88 wherein the grouping comprises encoding the data into the binary objects.

90. The computer readable medium of Claim 89 wherein each of the groups comprises data for probes in a tiling segment.

91. The computer readable medium of Claim 90 wherein the segment is at least 25 bases.

92. The computer readable medium of Claim 91 wherein the segment is at least 250 bases.

93. The computer readable medium of Claim 92 wherein the encoding comprises calling a component software.



94. The computer readable medium of Claim 93 wherein the component software is a COM object.

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